REMARKS

The Final Office Action mailed November 15, 2006 has been received and reviewed. Claims 1, 3 through 9, and 11 through 23 are currently pending in the application. Claims 1, 3 through 9, and 11 through 23 stand rejected. Applicant proposes to amend no claims, and respectfully requests reconsideration of the application as presented herein.

35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on U.S. Patent No. 5,716,534 to Tsuchiya et al. in view of U.S. Patent Publication No. 2002/0139665 to DeOrnellas et al. and U.S. Patent Publication No. 2001/0009139 to Shan et al.

Claims 1, 3 through 9, 11, 13 through 17, and 20 through 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsuchiya et al. (U.S. Patent No. 5,716,534) in view of DeOrnellas et al. (U.S. Patent Publication No. 2002/0139665) and Shan et al. (U.S. Patent Publication No. 2001/0009139). Applicant respectfully traverses this rejection, as hereinafter set forth.

M.P.E.P. 706.02(j) sets forth the standard for a Section 103(a) rejection:

> To establish a *prima facie* case of obviousness, three basic criteria must be met. **First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success.** Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. **The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.** *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (Emphasis added).

The 35 U.S.C. § 103(a) obviousness rejections of claims 1, 3 through 9, 11, 13 through 17, and 20 through 23 are improper because there is no motivation to combine the references and such an alleged combination destroys the intended purposes of the references.

Independent Claims 1 and 16

The Examiner is respectfully reminded that there must be a **basis in the art for combining or modifying references.** The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). See also In re Fritch, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992) (holding that "although a prior art device may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so."). Additionally, "it is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teaching of the prior art so that the claimed invention is rendered obvious . . . . One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." In re Fritch, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992).

Applicant's presently presented independent claim 1 recites:

1. A plasma reactor, comprising:
first, second and third power generators wherein the first power generator is coupled to an upper electrode and ***the second and third power generators are coupled to a lower electrode, the first, second and third power generators being frequency-based power generators;*** and
a controller configured to individually selectively activate the first, second and third power generators to a plurality of activation configurations during a corresponding plurality of phases of a duty cycle of a process. (Emphasis added.)

Applicant's presently presented independent claim 16 recites:

16. A plasma reactor, comprising:
a vacuum chamber including upper and lower electrodes therein;
first, second and third power generators wherein the first power generator is coupled to an upper electrode and ***the second and third power generators are coupled to a lower electrode, the first, second and third power generators being frequency-based power generators***; and
a controller configured to individually selectively activate the first, second and third power generators to a plurality of activation configurations during a corresponding plurality of phases of a duty cycle of a process. (Emphasis added.)

The Office Action cites the Tsuchiya reference for teaching or suggesting **two** frequency-based power generators 29 and 18. The Office Action further cites the DeOrnellas reference for teaching or suggesting **two** sources, one frequency-based power generator 32 and one DC source 34 coupled to the lower electrode. The Office Action cites the Shan reference for teaching or suggesting **two** frequency-based generators 240, 242 coupled to the bottom electrode. Each of these references teaches or suggests the use of **only two** sources, whether frequency-based or DC. There is ***no teaching or suggestion of any desirability of combining additional sources*** to provide any further benefit to any of the disclosed reactors, as required for a prima facie case of obviousness under 35 U.S.C. §103.

Additionally, the Office Action alleges:

> Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to ***replace DC power supply*** (third power generator) in DeOrnellas et al apparatus ***with a frequency based power generator*** as taught by Shan et al as an equivalent power supply ***for supplying bias power*** to the lower electrode. (Office Action, p. 4, emphasis added.)

First, Applicant respectfully asserts that "supplying bias power" is only achievable by the use of a DC supply since a "bias" is always in the form of a DC offset and is not achievable by mixing the signal from a frequency based power generator with the signal from another frequency based power generator. Therefore, the assertion is inaccurate and the alleged combination could not accomplish the intended result as alleged.

Second, by substituting another frequency based generator in place of the DC power supply of the DeOrnellas reference, as suggested in the Office Action, renders the DeOrnellas reference inoperable for its intended purpose. Specifically, the DeOrnellas reference utilizes the DC power supply 34 to provide a DC bias signal which is not capable of being provided by a frequency based generator. The DeOrnellas reference teaches of etching profiles that are **reliant** on the bias provided by the DC power supply 34. Specifically, the DeOrnellas reference teaches during an

> over-etch process, the plasma power supply 30 is turned down and the DC bias 34 is lowered [] by way of example only, the power supply 30 is turned down to one watt and

> the DC power supply is turned off. The activation energy curve for an oxide versus a polysilicon is such that as the energy is reduced, the polysilicon continues to be etched but at a slower rate while the etching of the oxide is reduced to near zero." (DeOrnellas, paragraph [0046]).

When the "proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." M.P.E.P. §2143.01 (citing In re Gordon, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984)). Accordingly, the alleged combination in the DeOrnellas reference resulting from replacing the bias-generating DC source 34 with a frequency based generator from the Shan reference destroys the DeOrnellas reference and therefore renders the DeOrnellas reference unsatisfactory for its intended purpose. Therefore, there can be no suggestion or motivation to combine the references.

For these reasons, Applicant asserts that a 35 U.S.C. § 103 rejection of independent claim 1 and independent claim 16 based on Tsuchiya reference in view of the DeOrnellas reference and further in view of the Shan reference is improper and must be withdrawn. Therefore, Applicant respectfully requests the rejections be withdrawn.

Claims 3-9, 11, 13-15

The nonobviousness of independent claim 1 precludes a rejection of claims 3-9, 11, 13-15 which depend therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See* In re Fine, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03. Therefore, the Applicant requests that the Examiner withdraw the 35 U.S.C. § 103(a) obviousness rejection to independent claim 1 and claims 3-9, 11, 13-15 which depends therefrom.

Claims 17, 20-23

The nonobviousness of independent claim 16 precludes a rejection of claims 17, 20-23 which depend therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See* In re Fine, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see*

also MPEP § 2143.03. Therefore, the Applicant requests that the Examiner withdraw the 35 U.S.C. § 103(a) obviousness rejection to independent claim 16 and claims 17, 20-23 which depends therefrom.

Obviousness Rejection Based on U.S. Patent No. 5,716,534 to Tsuchiya et al. in view of U.S. Patent Publication No. 2002/0139665 to DeOrnellas et al. and U.S. Patent Publication No. 2001/0009139 to Shan et al. as applied to Claims 1 and 16, and further in view of U.S. Patent No. 6,492,280 to DeOrnellas et al.

Claims 12, 18, and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsuchiya et al. (U.S. Patent No. 5,716,534) in view of DeOrnellas et al. (U.S. Patent Publication No. 2002/0139665) and Shan et al. (U.S. Patent Publication No. 2001/0009139) as applied to claims 1 and 16, and further in view of DeOrnellas et al. (U.S. Patent No. 6,492,280). Applicant respectfully traverses this rejection, as hereinafter set forth.

The nonobviousness of independent claim 1 precludes a rejection of claim 12 which depends therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See* In re Fine, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03. Therefore, the Applicant requests that the Examiner withdraw the 35 U.S.C. § 103(a) obviousness rejection to independent claim 1 and claim 12 which depends therefrom.

The nonobviousness of independent claim 16 precludes a rejection of claims 18 and 19 which depend therefrom because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See* In re Fine, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03. Therefore, the Applicant requests that the Examiner withdraw the 35 U.S.C. § 103(a) obviousness rejection to independent claim 16 and claims 18 and 19 which depend therefrom.

ENTRY OF RESPONSE/AMENDMENTS

The proposed response above should be entered by the Examiner because the remarks are supported by the as-filed specification and drawings and do not add any new matter to the application. Further, the remarks do not raise new issues or require a further search. Finally, if the Examiner determines that the remarks do not place the application in condition for allowance, entry is respectfully requested upon filing of a Notice of Appeal herein.

CONCLUSION

Claims 1, 3 through 9, and 11 through 23 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicant's undersigned attorney.

Respectfully submitted,

Kevin K. Johanson
Registration No. 38,506
Attorney for Applicant
TRASKBRITT
P.O. Box 2550
Salt Lake City, Utah 84110-2550
Telephone: 801-532-1922

Date: January 16, 2007
KKJ/mah:lmh

\\Traskbritt1\Shared\DOCS\2269-5862US\202763.doc